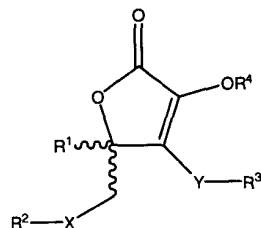


What is claim d is:

5

1. A method of treatment for a mammal suffering from a dermatologic condition comprising administering a therapeutically effective amount of a compound of Formula I,



Formula I

10

wherein:

R¹ is: -C(O)OR'; -C(O)NR'R"; -CH₂OR'''; cyano; optionally substituted heterocyclyl; optionally substituted heterocyclyl-alkyl; optionally substituted heteroaryl, or optionally substituted heteroaralkyl;

15

R² is: optionally substituted alkyl; optionally substituted cycloalkyl; optionally substituted aryl; optionally substituted aralkyl; optionally substituted heterocyclyl; optionally substituted heteroaryl; optionally substituted heteroaralkyl; an optionally substituted nucleoside; an optionally substituted amino acid; or an optionally substituted di-, tri- or tetra-peptide;

R³ is: optionally substituted alkyl; optionally substituted cycloalkyl; optionally substituted aryl; optionally substituted aralkyl; optionally substituted heterocyclyl; optionally substituted heteroaryl; optionally substituted heteroaralkyl; an optionally substituted nucleoside; an optionally substituted amino acid; or an optionally substituted di-, tri- or tetra-peptide;

20

R⁴ is: hydrogen; alkyl; alkylcarbonyl; (poly)alkoxyalkylene; or dialkoxyphosphoryloxy;

X is: lower alkylene; -N(R')-; -S-; -S(O)-; -S(O)₂-; or X taken together with R² is -P(O)(OR')₂;

25

Y is: -N(R')-; -S-; -S(O)-; -S(O)₂-; or Y taken together with R³ is -P(O)(OR')₂;

or X-R² taken together with Y-R³ form an optionally substituted aliphatic or aromatic ring;

R' is: hydrogen; alkenyl; optionally substituted alkyl; optionally substituted cycloalkyl; phosphoryl; or optionally substituted aryl;

R'' is: hydrogen; alkenyl; optionally substituted alkyl; or optionally substituted aryl;

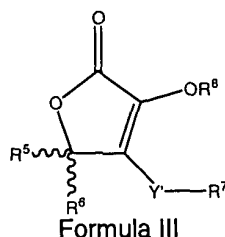
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or R' and R'' together with the atom to which they are attached form a 5- to 7- membered aromatic, saturated or unsaturated ring, optionally incorporating one or more additional heteroatoms chosen from N, O, or S, and optionally substituted with one or more substituents selected from the group consisting of optionally substituted lower alkyl, halo, cyano, alkylthio, lower alkoxy, carboxy, benzyl, and oxo;

35

R''' is: hydrogen; alkenyl; optionally substituted alkyl; acyl, optionally substituted cycloalkyl; phosphoryl; or optionally substituted aryl;

or a compound of Formula III:



wherein:

- 5 R^5 is: $-C(O)OR^a$; $-C(O)NR^aR^b$; $-CH_2OR^d$; $-C(O)R^c$; cyano; optionally substituted heterocyclyl; or optionally substituted heteroaryl;
- R^6 is hydrogen; $-C(O)OR^a$; $-C(O)NR^aR^b$; $-CH_2OR^d$; $-C(O)R^c$; cyano; optionally substituted alkyl; optionally substituted heterocyclyl; optionally substituted aryl, or optionally substituted heteroaryl;
- 10 or R^5 and R^6 with the atom to which they are attached form an optionally substituted ring;
- R^7 is: optionally substituted alkyl; optionally substituted cycloalkyl; optionally substituted aryl; optionally substituted aralkyl; optionally substituted heterocyclyl; optionally substituted heteroaryl; optionally substituted heteroaralkyl; an optionally substituted nucleoside; an optionally substituted amino acid; or an optionally substituted di-, tri- or tetra-peptide;
- 15 with the proviso that when R^6 is alkyl, then R^7 is optionally substituted heterocyclyl, optionally substituted heteroaryl, or optionally substituted heteroaralkyl.
- or R^5 and R^7 with the atoms to which they are attached form an optionally substituted heterocyclic ring;
- R^8 is: hydrogen; alkyl; alkylcarbonyl; (poly)alkoxyalkylene; or dialkoxyphosphoryloxy;
- 20 Y is: $-N(R^a)-$; $S-$; $-S(O)-$; or $-S(O)_2-$;
- R^a is: hydrogen; alkenyl; optionally substituted alkyl; optionally substituted cycloalkyl; or optionally substituted aryl;
- R^b is: hydrogen; alkenyl; optionally substituted alkyl; or optionally substituted aryl;
- or R^a and R^b together with the atom to which they are attached form a 5- to 7- membered
- 25 aromatic, saturated or unsaturated ring, optionally incorporating one or more additional heteroatom chosen from N, O, or S, and optionally substituted with one or more substituents selected from the group consisting of optionally substituted lower alkyl, halo, cyano, alkylthio, lower alkoxy, carboxy, benzyl, and oxo;
- R^c is optionally substituted alkyl or optionally substituted aryl; and
- 30 R^d is hydrogen; alkenyl; optionally substituted alkyl; acyl; optionally substituted cycloalkyl; or optionally substituted aryl;

including single tautomers, single stereoisomers and mixtures of tautomers and/or stereoisomers, and the pharmaceutically acceptable salts thereof.

- 35 2. The method of Claim 1, wherein X and Y are both $-S-$.

3. The method of Claim 1 wherein the compound is selected from:

R-3-[2-(4-Amino-4-carboxy-butyrylamino)-2-(carboxymethyl-carbamoyl)-ethylsulfanyl]-2-[2-(4-amino-4-carboxy-butyrylamino)-2-(carboxymethyl-carbamoyl) ethylsulfanylmethyl]-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(5-Chloro-benzothiazol-2-ylsulfanyl)-2-(5-chloro-benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(pyrrolidine-1-carbothioylsulfanyl)-2-(pyrrolidine-1-carbothioylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(Benzoselenazol-2-ylsulfanyl)-2-(benzoselenazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(7-trifluoromethyl-quinolin-4-ylsulfanyl)-2-(7-trifluoromethyl-quinolin-4-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(2-sulfo-ethylsulfanyl)-2-(2-sulfo-ethylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(4-trifluoromethyl-pyrimidin-2-ylsulfanyl)-2-(4-trifluoromethyl-pyrimidin-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(1-oxy-pyridin-2-ylsulfanyl)-2-(1-oxy-pyridin-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Chloro-phenylsulfanyl)-2-(2-chloro-phenylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-Hexylsulfanyl-2-hexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(1-phenyl-1*H*-tetrazol-5-ylsulfanyl)-2-(1-phenyl-1*H*-tetrazol-5-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-(naphthalen-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(4-phenyl-thiazol-2-ylsulfanyl)-2-(4-phenyl-thiazol-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-(5-sulfo-1*H*-benzoimidazol-2-ylsulfanyl)-5-(5-sulfo-1*H*-benzoimidazol-2-ylsulfanylmethyl)-3-hydroxy-5-hydroxymethyl-5*H*-furan-2-one;

3-(Furan-2-ylmethylsulfanyl)-2-(furan-2-ylmethylsulfanylmethyl)-4-isobutyryloxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-[4-(2-methoxycarbonyl-vinyl)-phenylsulfanyl]-2-[4-(2-methoxycarbonyl-vinyl)-phenylsulfanylmethyl]-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(6-nitro-benzothiazol-2-ylsulfanyl)-2-(6-nitro-benzothiazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

2-(Benzothiazole-2-sulfinylmethyl)-3-(benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2,4-Dichloro-benzylsulfanyl)-2-(2,4-dichloro-benzylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

5 4-Hydroxy-3-(5-methoxy-benzothiazol-2-ylsulfanyl)-2-(5-methoxy-benzothiazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Chloro-6-fluoro-benzylsulfanyl)-2-(2-chloro-6-fluoro-benzylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

10 Dimethylamino-acetic acid 3-(1*H*-benzoimidazol-2-ylsulfanyl)-2-(1*H*-benzoimidazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-ylmethyl ester;

3-(2-Chloro-4-fluoro-phenylsulfanyl)-2-(2-chloro-4-fluoro-phenylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid;

15 2-(Furan-2-ylmethanesulfinylmethyl)-3-(furan-2-ylmethanesulfonyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(furan-2-ylmethanesulfinyl)-2-(furan-2-ylmethanesulfinylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

20 4-(2,2-dimethyl-propionyloxy)-3-ethoxycarbonylmethylsulfanyl-2-ethoxycarbonylmethylsulfanylmethyl-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Dimethylamino-ethylsulfanyl)-2-(2-dimethylamino-ethylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid;

3-(5,6-Dichloro-1*H*-benzoimidazol-2-ylsulfanyl)-2-(5,6-dichloro-1*H*-benzoimidazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

25 3-Benzylsulfanyl-2-benzylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-(1*H*-Benzoimidazol-2-ylsulfanyl)-3-hydroxy-1-oxa-7,9-diaza-spiro[4.5]dec-3-ene-2,6,8,10-tetraone;

30 3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid isopropyl ester;

4-Acetoxy-3-(furan-2-ylmethylsulfanyl)-2-(furan-2-ylmethylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Ethoxy-3-(1-ethyl-1*H*-benzoimidazol-2-ylsulfanyl)-2-(1-ethyl-1*H*-benzoimidazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

35 2-(1*H*-Benzoimidazol-2-ylsulfanylmethyl)-4-ethoxy-3-(1-ethyl-1*H*-benzoimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Acetoxy-3-benzylsulfanyl-2-benzylsulfanylmethyl-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

40 4-Hydroxy-3-(1-methyl-1*H*-benzoimidazol-2-ylsulfanyl)-2-(1-methyl-1*H*-benzoimidazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(1H-Benzoimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(5-methyl-1H-benzoimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid 2-isopropyl-5-methyl-cyclohexyl ester;

5 Di-[2-(4-Hydroxy-5-oxo-2-carboxylic acid methyl ester)]-disulfide; and

3-(4-Fluoro-benzylsulfanyl)-4-hydroxy-5-oxo-5H-furan-2,2-dicarboxylic acid diethyl ester.

4. The method of Claim 1, wherein the compound is selected from:

10 3-(5-Chloro-benzothiazol-2-ylsulfanyl)-2-(5-chloro-benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(Benzoselenazol-2-ylsulfanyl)-2-(benzoselenazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

15 3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Chloro-phenylsulfanyl)-2-(2-chloro-phenylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

20 3-Hexylsulfanyl-2-hexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-(naphthalen-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(4-phenyl-thiazol-2-ylsulfanyl)-2-(4-phenyl-thiazol-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

25 3-(Furan-2-ylmethylsulfanyl)-2-(furan-2-ylmethylsulfanylmethyl)-4-isobutyryloxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2,4-Dichloro-benzylsulfanyl)-2-(2,4-dichloro-benzylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

30 3-(2-chloro-4-fluoro-phenylsulfanyl)-2-(2-chloro-4-fluoro-phenylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(furan-2-ylmethanesulfinyl)-2-(furan-2-ylmethanesulfinylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-(2,2-dimethyl-propionyloxy)-3-ethoxycarbonylmethylsulfanyl-2-ethoxycarbonylmethylsulfanylmethyl-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

35 3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid isopropyl ester;

4-Hydroxy-3-(1-methyl-1H-benzoimidazol-2-ylsulfanyl)-2-(1-methyl-1H-benzoimidazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(1H-Benzimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(5-methyl-1H-benzimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid 2-isopropyl-5-methyl-cyclohexyl ester;

5 Di-[2-(4-Hydroxy-5-oxo-2-carboxylic acid methyl ester)]-disulfide; and

3-(4-Fluoro-benzylsulfanyl)-4-hydroxy-5-oxo-5H-furan-2,2-dicarboxylic acid diethyl ester.

5. The method of Claim 1, wherein the condition is selected from regulating skin condition, regulating the signs of skin aging or for treating contact dermatitis, skin irritation, acne, rosacea, psoriasis, age-related damage or damage resulting from harmful (UV) radiation or environmental pollution, stress or fatigue.

6. The method of Claim 1, comprising topically administering at least one compound of Formula I or of Formula III.

7. The method of Claim 3, comprising applying to the area of skin in need of such treatment a composition comprising at least one compound selected from:

R-3-[2-(4-Amino-4-carboxy-butyrylamino)-2-(carboxymethyl-carbamoyl)-ethylsulfanyl]-2-[2-(4-amino-4-carboxy-butyrylamino)-2-(carboxymethyl-carbamoyl) ethylsulfanylmethyl]-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(5-Chloro-benzothiazol-2-ylsulfanyl)-2-(5-chloro-benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-Cyclohexylsulfanyl-2-cyclohexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(pyrrolidine-1-carbothioylsulfanyl)-2-(pyrrolidine-1-carbothioylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(Benzoselenazol-2-ylsulfanyl)-2-(benzoselenazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(7-trifluoromethyl-quinolin-4-ylsulfanyl)-2-(7-trifluoromethyl-quinolin-4-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(2-sulfo-ethylsulfanyl)-2-(2-sulfo-ethylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(4-trifluoromethyl-pyrimidin-2-ylsulfanyl)-2-(4-trifluoromethyl-pyrimidin-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(1-oxy-pyridin-2-ylsulfanyl)-2-(1-oxy-pyridin-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Chloro-phenylsulfanyl)-2-(2-chloro-phenylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-Hexylsulfanyl-2-hexylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(1-phenyl-1*H*-tetrazol-5-ylsulfanyl)-2-(1-phenyl-1*H*-tetrazol-5-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

5 4-Hydroxy-3-(naphthalen-2-ylsulfanyl)-2-(naphthalen-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-5-oxo-3-(4-phenyl-thiazol-2-ylsulfanyl)-2-(4-phenyl-thiazol-2-ylsulfanylmethyl)-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

10 4-(5-sulfo-1*H*-benzoimidazol-2-ylsulfanyl)-5-(5-sulfo-1*H*-benzoimidazol-2-ylsulfanylmethyl)-3-hydroxy-5-hydroxymethyl-5*H*-furan-2-one;

3-(Furan-2-ylmethylsulfanyl)-2-(furan-2-ylmethylsulfanylmethyl)-4-isobutyryloxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-[4-(2-methoxycarbonyl-vinyl)-phenylsulfanyl]-2-[4-(2-methoxycarbonyl-vinyl)-phenylsulfanylmethyl]-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

15 4-Hydroxy-3-(6-nitro-benzothiazol-2-ylsulfanyl)-2-(6-nitro-benzothiazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

2-(Benzothiazole-2-sulfinylmethyl)-3-(benzothiazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

20 3-(2,4-Dichloro-benzylsulfanyl)-2-(2,4-dichloro-benzylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(5-methoxy-benzothiazol-2-ylsulfanyl)-2-(5-methoxy-benzothiazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Chloro-6-fluoro-benzylsulfanyl)-2-(2-chloro-6-fluoro-benzylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

25 Dimethylamino-acetic acid 3-(1*H*-benzoimidazol-2-ylsulfanyl)-2-(1*H*-benzoimidazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-ylmethyl ester;

3-(2-Chloro-4-fluoro-phenylsulfanyl)-2-(2-chloro-4-fluoro-phenylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

30 3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid;

2-(Furan-2-ylmethanesulfinylmethyl)-3-(furan-2-ylmethanesulfonyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(furan-2-ylmethanesulfinyl)-2-(furan-2-ylmethanesulfinylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

35 4-(2,2-dimethyl-propionyloxy)-3-ethoxycarbonylmethylsulfanyl-2-ethoxycarbonylmethylsulfanylmethyl-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(2-Dimethylamino-ethylsulfanyl)-2-(2-dimethylamino-ethylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid;

40 3-(5,6-Dichloro-1*H*-benzoimidazol-2-ylsulfanyl)-2-(5,6-dichloro-1*H*-benzoimidazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-Benzylsulfanyl-2-benzylsulfanylmethyl-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-(1*H*-Benzoimidazol-2-ylsulfanyl)-3-hydroxy-1-oxa-7,9-diaza-spiro[4.5]dec-3-ene-2,6,8,10-tetraone;

3-(Benzothiazol-2-ylsulfanyl)-2-(benzothiazol-2-ylsulfanylmethyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid isopropyl ester;

4-Acetoxy-3-(furan-2-ylmethylsulfanyl)-2-(furan-2-ylmethylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Ethoxy-3-(1-ethyl-1*H*-benzoimidazol-2-ylsulfanyl)-2-(1-ethyl-1*H*-benzoimidazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

2-(1*H*-Benzoimidazol-2-ylsulfanylmethyl)-4-ethoxy-3-(1-ethyl-1*H*-benzoimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Acetoxy-3-benzylsulfanyl-2-benzylsulfanylmethyl-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(1-methyl-1*H*-benzoimidazol-2-ylsulfanyl)-2-(1-methyl-1*H*-benzoimidazol-2-ylsulfanylmethyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

3-(1*H*-Benzoimidazol-2-ylsulfanyl)-4-hydroxy-5-oxo-2,5-dihydro-furan-2-carboxylic acid ethyl ester;

4-Hydroxy-3-(5-methyl-1*H*-benzoimidazol-2-ylsulfanyl)-5-oxo-2,5-dihydro-furan-2-carboxylic acid 2-isopropyl-5-methyl-cyclohexyl ester;

Di-[2-(4-Hydroxy-5-oxo-2-carboxylic acid methyl ester)]-disulfide; and

3-(4-Fluoro-benzylsulfanyl)-4-hydroxy-5-oxo-5*H*-furan-2,2-dicarboxylic acid diethyl ester.

7. The method of Claim 1, comprising administering a formulation for topical application comprising one or more topical excipients and at least one compound of Formula I or of Formula III.

8. The method of Claim 1, additionally comprising an additional benefit agent, selected from sunscreens, retinoid and derivatives thereof, antioxidants, hydroxyacids, botanical extracts, salicylic acid, benzoyl peroxide, antibiotics, antiandrogens, anti-inflammatory agents, vitamins, tocopherol (α -, β -, γ -, δ -) and esters thereof, corticosteroid and mixtures thereof.

9. The method of Claim 3, additionally comprising an additional benefit agent, selected from sunscreens, retinoid and derivatives thereof, antioxidants, hydroxyacids, botanical extracts, salicylic acid, benzoyl peroxide, antibiotics, antiandrogens, anti-inflammatory agents, vitamins, tocopherol (α -, β -, γ -, δ -) and esters thereof, corticosteroid and mixtures thereof.